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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/730,165	12/08/2003	Stephen A. Sekulich	Seal	2173

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EXAMINER

LEE, GILBERT Y

ART UNIT PAPER NUMBER

3673

DATE MAILED: 11/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/730,165	Applicant(s) SEKULICH ET AL.	
	Examiner Gilbert Y. Lee	Art Unit 3673	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-70 is/are pending in the application.
- 4a) Of the above claim(s) 1-30 and 51-54 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 31-50, and 55-70 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 December 2003 is/are: a) ☒ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Claims 1-30 and 51-54 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected Species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 10/31/05.

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "said tapering is most thick near the flex area", "a static sealing band", and "tapering is most thick near the flex area" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet,

Art Unit: 3673

and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

1. Claims 34, 38,39,43,50, and 64 are objected to because of the following informalities: the terms "ID" and "OD" should be spelled out as inner diameter and outer diameter. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Art Unit: 3673

1. Claims 38, 43, and 56 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. It is unclear to the examiner as to how the tapering is most thick near the flex area. For the purposes of this examination the examiner interpreting this claim to read on Fig. 8, which only shows the tapering being least thick near the flex area.

Regarding claim 38 and 43, it is unclear to the examiner where the applicant is trying to stop the hydrodynamic grooves.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 38 and 43 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 38 and 43, the phrase "short of the portion of the part of the sealing element" renders the claim indefinite.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Art Unit: 3673

1. Claims 31-33, 44-46, 55, and 57-60 are rejected under 35 U.S.C. 102(b) as being anticipated by Brandt (US Patent No. 5,556,112).

Regarding claim 31, the Brandt reference discloses a housed shaft sealing element (Fig. 2) comprising a flex area (8) that is thinner than the thickness of the part of the sealing element bearing on the shaft (4).

Regarding claim 32, the Brandt reference discloses a housed shaft sealing element including adjusting the thickness of said flex area to effect a desired pressure on the shaft by the part of the sealing element bearing on the shaft (Col. 4 Lines 35-38)

Regarding claim 33, the Brandt reference discloses a flex area (8) that is thinner than the thickness of the sealing element clamped in the housing (3).

Regarding claim 44, the Brandt reference discloses a housed shaft sealing element (Fig. 1) comprising a circumferential hinge groove (groove to the left of 8).

Regarding claim 45, the Brandt reference discloses adjustment of the thickness of the material (Col. 4, Lines 30-38). Note that changing the thickness of the material will ultimately change the depth of the groove as well.

Regarding claim 46, the Brandt reference discloses adjustment of the position of the hinge groove (Col. 4, Lines 19-23).

Regarding claim 55, the Brandt reference discloses tapering the thickness of the part of the seal bearing on the shaft seal (Fig. 2).

Regarding claim 57, the Brandt reference discloses the tapering being least thick near the flex area (Fig. 2).

Regarding claim 58, the Brandt reference discloses a circumferential hinge groove (groove to the left of 8).

Regarding claim 59, the Brandt reference discloses adjustment of the thickness of the material (Col. 4, Lines 30-38). Note that changing the thickness of the material will ultimately change the depth of the groove as well.

Regarding claim 60, the Brandt reference discloses adjustment of the position of the hinge groove (Col. 4, Lines 19-23).

2. Claims 34-43 are rejected under 35 U.S.C. 102(b) as being anticipated by Hayashida et al. (US Patent No. 4,568,092).

Regarding claims 34 and 38, the Hayashida et al. reference discloses a housed shaft sealing element (Fig. 1) comprising hydrodynamic grooves (3) that extend across a portion of the part of the sealing element bearing on the shaft.

Regarding claim 35, the Hayashida et al. reference discloses extending the hydrodynamic grooves into the flex area (Fig. 1).

Regarding claims 36 and 37, the Hayashida et al. reference discloses a depth and pitch to provide back-feed elements (Col. 2, Lines 35-61).

Regarding claims 39 and 43, the Hayashida et al. reference discloses a housed shaft sealing element (Fig. 1) comprising hydrodynamic grooves (3) that extend across a portion of the part of the sealing element bearing on the shaft.

Regarding claim 40, the Hayashida et al. reference discloses extending the hydrodynamic grooves into the flex area (Fig. 1).

Art Unit: 3673

Regarding claims 41 and 42, the Hayashida et al. reference discloses a depth and pitch to provide back-feed elements (Col. 2, Lines 35-61).

3. Claims 44, 47, 50, 55, 58, 61, 64-66, 69, and 70 are rejected under 35 U.S.C. 102(e) as being anticipated by Onuma et al. (US Patent No. 5,915,696).

Regarding claim 44, the Onuma et al. reference discloses a housed shaft sealing element (10) comprising a circumferential hinge groove (groove above element 26) in the flex area having a depth less than the thickness of the sealing element in the flex area (Fig. 1).

Regarding claim 47, the Onuma et al. reference discloses a wiper lip (26).

Regarding claim 50, the Onuma et al. reference discloses a wiper lip (26) that has a greater interior diameter than the outer diameter of the shaft. Note that since the lip is on the outer surface of the shaft, that the inner diameter of the lip has to be greater than the outer diameter of the shaft.

Regarding claim 55, the Onuma et al. reference discloses a housed shaft sealing element (10) comprising tapering the thickness of the part of the seal bearing on the shaft (Fig. 1).

Regarding claim 58, the Onuma et al. reference discloses a circumferential hinge groove (groove above element 26) in the flex area having a depth less than the thickness of the sealing element in the flex area (Fig. 1).

Regarding claim 61, the Onuma et al. reference discloses a wiper lip (26).

Art Unit: 3673

Regarding claim 64, the Onuma et al. reference discloses a wiper lip (26) that has a greater interior diameter than the outer diameter of the shaft. Note that since the lip is on the outer surface of the shaft, that the inner diameter of the lip has to be greater than the outer diameter of the shaft.

Regarding claim 65, the Onuma et al. reference discloses hydrodynamic grooves (40).

Regarding claim 66, the Onuma et al. reference discloses hydrodynamic grooves extending into the flex area (Fig. 1).

Regarding claim 69, the Onuma et al. reference discloses a circumferential hinge groove (groove above element 26) in the flex area having a depth less than the thickness of the sealing element in the flex area (Fig. 1) and hydrodynamic grooves (40).

Regarding claim 70, the Onuma et al. reference discloses a circumferential hinge groove (groove above element 26) in the flex area having a depth less than the thickness of the sealing element in the flex area (Fig. 1), hydrodynamic grooves (40) and a wiper lip (26).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

Art Unit: 3673

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claim 56 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brandt.

Regarding claim 56, the Brandt reference discloses the invention substantially as claimed, but fails to disclose the tapering to be most thick near the flex area. Attention is drawn to Col. 4, Lines 35-38, which discloses that varying thicknesses of material lead to the desired results. Therefore it would have been obvious to one skilled in the art to provide a tapering to be most thick near the flex area to achieve the desired results.

2. Claims 48, 49, 62, and 63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Onuma et al.

Regarding claims 48 and 62, the Onuma et al. reference discloses the invention substantially as claimed except for the adjustment of the depth of the hinge groove. It would have been an obvious matter of design choice to adjust the depth of the hinge groove, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955).

Regarding claims 49 and 63, the Onuma et al. reference discloses the invention substantially as claimed except for the adjustment of the position of the hinge groove. It would have been obvious to one having ordinary skill in the art at the time the invention was made to adjust the position of the hinge groove, since it has been held that rearranging parts of an invention involves only routine skill in the art. *In re Japikse*, 86 USPQ 70.

3. Claims 67 and 68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Onuma et al. in view of Hayashida et al.

Regarding claims 67 and 68, the Onuma et al. reference discloses the invention substantially as claimed, but fails to disclose the depth and pitch of the hydrodynamic grooves. Attention is drawn to the Hayashida et al. reference, which discloses a depth and pitch to provide back-feed elements (Col. 2, Lines 35-61). It would have been obvious to one skilled in the art to provide the Onuma et al. in view of the teachings of the Hayashida et al. reference, certain depth and pitch to the hydrodynamic grooves to provide back-feed elements.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Visconti (US Patent No. 6,056,293), Tripathy (US Patent No. 6,149,158), Weinand (US Patent No. 3,534,969), Johnston (US Patent No. 6,729,624), Matsushima (US Patent No. 4,550,920), Bock et al. (US Patent No. 6,715,768), Johnen et al. (US Patent No. 6,079,715), vom Schemm (US Patent No. 6,688,603), Hering et al. (US Patent No. 5,462,287), Schaus et al. (US Patent No. 4,440,405), Repella (US Patent No. 4,497,496), and Stanley (US Patent No. 5,758,881).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gilbert Y. Lee whose telephone number is 571-272-5894. The examiner can normally be reached on 8:00 - 4:30, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Suzanne L. Barrett can be reached on (571)272-7053. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

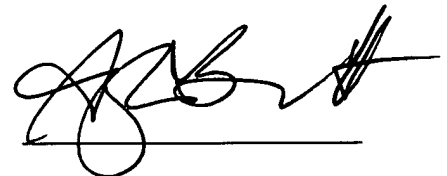
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GL

11/19/2005

Suzanne Barrett

SPE AU3673

A handwritten signature in black ink, appearing to be 'Suzanne Barrett', written over a horizontal line.